



Republic of the Philippines
DEPARTMENT OF EDUCATION



K to 12 BASIC EDUCATION CURRICULUM

TECHNOLOGY AND LIVELIHOOD EDUCATION

CURRICULUM GUIDE

Exploratory Course on

AQUACULTURE

K to 12 TECHNOLOGY AND LIVELIHOOD EDUCATION

**AGRICULTURE/FISHERY – AQUACULTURE
(Exploratory)**

Curriculum Guide for the Exploratory Course on Aquaculture

For you to get a complete picture of the complete TLE exploratory course on Aquaculture, you are hereby provided with the Curriculum Guide on Aquaculture.

Content Standard	Performance Standard	Learning Competencies	Project/ Activities	Assessment	Duration
LESSON 1: USE FARM/FISHERY TOOLS AND EQUIPMENT					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Farm/Fishery tools • Handheld tools used in aquaculture <ul style="list-style-type: none"> ➤ (ex. Secchi discs, digging blade, cutting tools etc.) • Safety practices during operations of farm/fishery tools 	<ol style="list-style-type: none"> 1. Appropriate farm/fishery tools are identified according to requirements. 2. Farm/fishery tools are checked for faults and defective tools are reported in accordance with farm procedures. 	LO1. Select and use farm tools.		<ul style="list-style-type: none"> • Performance test • Written Test 	4 hours
<ul style="list-style-type: none"> • Farm/Fishery equipment • Motorized equipment <ul style="list-style-type: none"> ➤ (ex. Water pump) • Electrical equipment <ul style="list-style-type: none"> ➤ (ex. paddle wheel, light) • Manual of farm/fishery equipment and 	<ol style="list-style-type: none"> 1. Appropriate farm/fishery equipment and facilities are identified. 2. Instructional manual of farm/fishery equipment and facilities are carefully read prior to operation. 3. Pre-operation check-up is 	LO2. Select and operate farm equipment.	<p>Demonstration on:</p> <ul style="list-style-type: none"> • Using farm/fishery tools, equipment and facilities. • Checking and reporting for faults 	<ul style="list-style-type: none"> • Performance test • Written Test 	4 hours

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specifications , calibration and uses/functions <ul style="list-style-type: none"> • Aquaculture Facilities <ul style="list-style-type: none"> ▪ Fish tank ▪ Fish pen ▪ Fish cage ▪ Fishpond • Pre-operation and check-up • Safety practices in using farm/fishery equipment and facilities 	conducted in line with manufacturers’ manual. <ol style="list-style-type: none"> 4. Faults in farm/fishery equipment and facilities are identified and reported in line with aquaculture procedures. 5. Farm/Fishery equipment and facilities are used according to its function. 6. Safety procedures are followed. 		and defects of farm/fishery tools and equipment. <ul style="list-style-type: none"> • Cleaning, maintenance and storing of farm/fishery tools and equipment. 		
<ul style="list-style-type: none"> • Preventive maintenance <ul style="list-style-type: none"> ➢ Safety measures and practices in cleaning and storing for different farm/fishery tools, equipment and facilities. ➢ Upkeep of equipment 	<ol style="list-style-type: none"> 1. Tools, equipment and facilities are cleaned immediately after use in line with aquaculture procedures. 2. Routine check-up and maintenance are performed. 3. Tools and equipment are stored in designated areas in line farm procedures. 	LO3. Perform preventive maintenance.		<ul style="list-style-type: none"> • Written Test • Performance test 	4 hours
LESSON 2: PERFORM ESTIMATION AND BASIC CALCULATION					
<i>Demonstrate understanding of/on:</i> <ul style="list-style-type: none"> • Problem solving procedures (formulas 	<ol style="list-style-type: none"> 1. Job requirements are identified from written or oral communications. 	LO1. Perform estimation.	Make a report paper on estimating cost for the development of	<ul style="list-style-type: none"> • Written test • Performance 	4 hours

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<ul style="list-style-type: none"> • Basic mathematical operations • Cost estimation of aquaculture facility construction and development. • Calendar of activities 	<ol style="list-style-type: none"> 2. Quantities of materials and resources required to complete a work task are estimated. 3. Time needed to complete a work activity is estimated. 4. Estimate of materials and resources are reported to appropriate person. 		an aquaculture facility.	test	
<ul style="list-style-type: none"> • Basic mathematical operations • Systems of measurement • Units of measurement (ex. Dimensions of aquaculture site) • Conversion of units • Fractions and decimals • Percentages and ratios (ex. Feed conversion ratio) • Simple record keeping 	<ol style="list-style-type: none"> 1. Calculations to be made are identified according to job requirements. 2. Systems and units of measurement to be followed are ascertained. 3. Appropriate operations are used to comply with the instruction. 4. Result obtained is reviewed and thoroughly checked. 	LO2. Perform basic workplace calculations.	Apply basic mathematical operations in fish culture: <ol style="list-style-type: none"> 1. Formulating a fish diet 2. Computing lime requirement 3. Computing average body weight of fish sample. 4. Measuring the area of the given facility in your school 5. Converting measurements from English to 	<ul style="list-style-type: none"> • Written Test • Performance test 	4 hours

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			Metric System. 6. Compiling and record keeping		
LESSON 3: DRAW THE LAYOUT PLAN FOR PONDS, TANKS, PENS AND CAGES					
<p><i>Demonstrate understanding of/on:</i></p> <ul style="list-style-type: none"> • Different pond designs • Different compartments • Procedure on determining gate locations • Types of dikes • Characteristics of water supply canal • Suggested locations of stock room and other farm facilities 	<ol style="list-style-type: none"> 1. Different compartments of pond are identified. 2. Signs and symbols of plan are used according to fishpond engineering standards. 3. Lay out of different pond designs are drawn according to established procedures. 	LO1. Draw layout plan for ponds.	Draw layout plan of different fishpond systems, dikes and gates with support systems; apply ratio and scaling.	<ul style="list-style-type: none"> • Written test • Performance test 	4 hours
<ul style="list-style-type: none"> • Characteristic of different shapes of tanks • Different life support system for tanks 	<ol style="list-style-type: none"> 1. Different life support systems for tanks are identified. 2. Signs and symbols of plan are used according to fishpond engineering standards. 3. Lay out of different tank designs are drawn according to established procedures. 	LO2. Draw layout plan for tanks.	Draw layout plan of a fish tank with its different components and support system; apply ratio and scaling.	<ul style="list-style-type: none"> • Written test • Performance test 	4 hours
<ul style="list-style-type: none"> • Characteristic of different 	1. Different life support system	LO3. Draw layout	Draw layout plan of a	<ul style="list-style-type: none"> • Written test 	4 hours

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shapes of pens/cages <ul style="list-style-type: none"> • Different life support system for pens/cages • Characteristics of different types of cages 	for pens/cages is identified. <ol style="list-style-type: none"> 2. Signs and symbols of plan are used according to fishpond engineering standards. 3. Lay out of different pens/cages designs are drawn according to established procedures. 	plan for pens and cages.	floating fish cage with its support system; apply ratio and scaling.	<ul style="list-style-type: none"> • Performance test 	
LESSON 4: APPLY SAFETY MEASURES ON FARM OPERATIONS					
<i>Demonstrate understanding of/on:</i> <ul style="list-style-type: none"> • Farm works that involves using chemicals • Personal protective equipment (PPE) used in farms • Basic first aid • Farm emergency procedures regarding safety working environment 	<ol style="list-style-type: none"> 1. Safety measures are applied based on work requirement and aquaculture procedures. 2. Tools and materials are utilized in accordance with specification and procedures. 3. Outfits are worn in accordance with farm requirements. 4. Shelf life and or expiration of materials are effectively checked against manufacturers' specifications. 5. Hazards in the workplace are identified and reported in line with farm guidelines. 	LO1. Apply appropriate safety measures	Role play on basic first aid practices in a workplace.	<ul style="list-style-type: none"> • Written test • Performance test 	4 hours

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<ul style="list-style-type: none"> • Procedure in cleaning outfits • Technique in storing materials and chemicals • Government requirement regarding farm waste disposal • Waste management system (FPA regulations, DENR laws, etc.) 	<ol style="list-style-type: none"> 1. Used tools and outfit are cleaned, stored in line with farm procedure. 2. Unused materials are labeled and stored according to manufacturers' recommendation and farm requirements. 3. Waste materials are disposed according to manufacturers', government's and farm requirements. 	LO2. Safely keep/ dispose tools, materials and outfit.	Pictorial report on proper ways of disposing farm wastes.	<ul style="list-style-type: none"> • Written examination 	4 hours
					40 hours

“By three methods we may learn wisdom: First, by reflection, which is noblest; second, by imitation, which is easiest; and third by experience, which is the bitterest.”

- Confucius